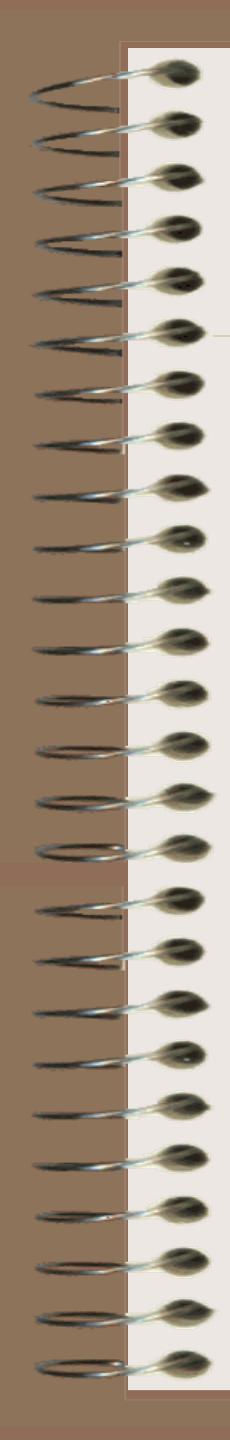




Dysfunctional Uterine Bleeding

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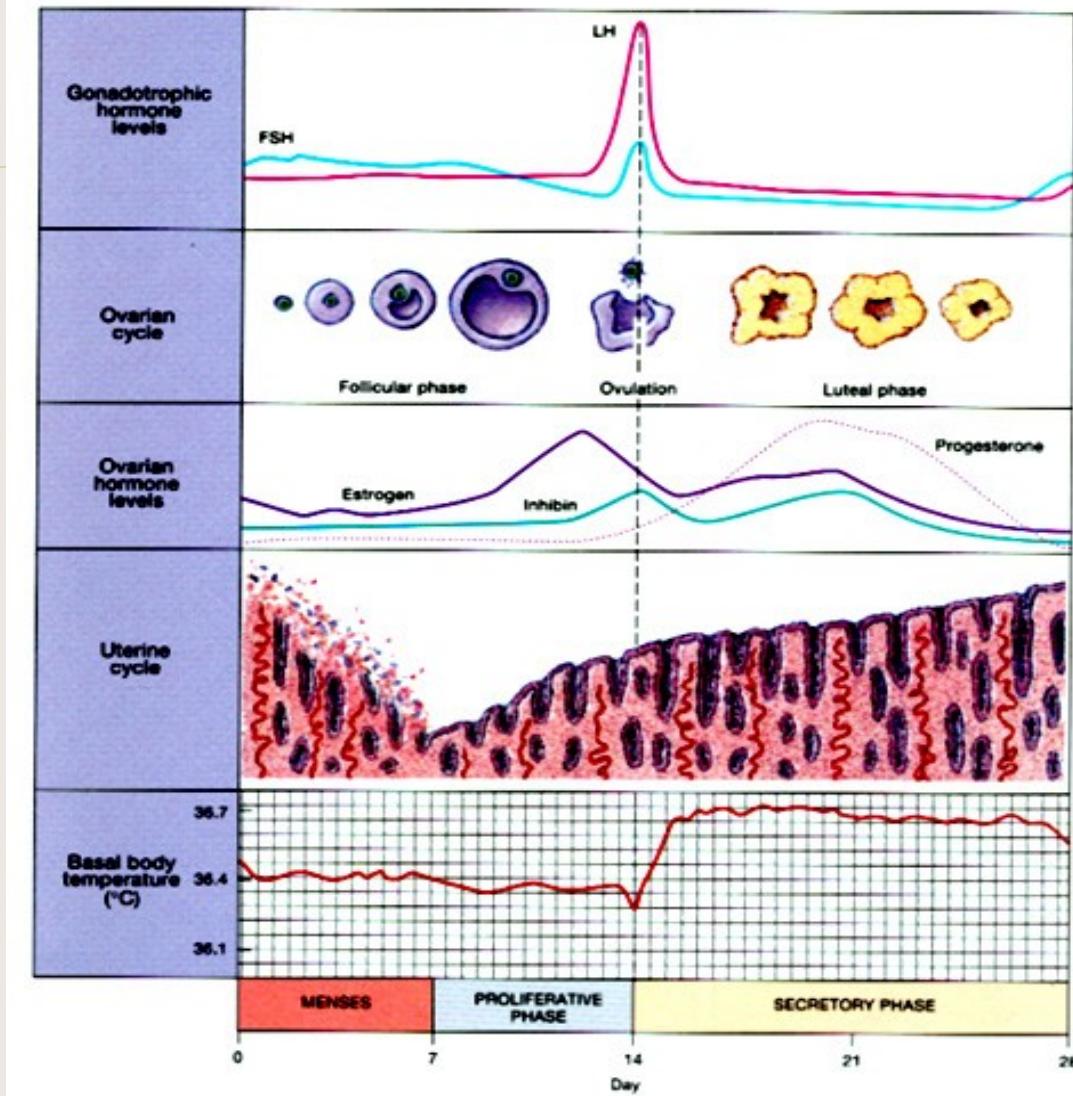


DUB: Definition

- Excessive uterine bleeding
- No demonstrable organic cause
- Most frequently due to anovulation

Normal Menses

- Flow lasts 2-7 days
- Cycle 21-35 days in length
- Total menstrual blood loss 20-60 mL

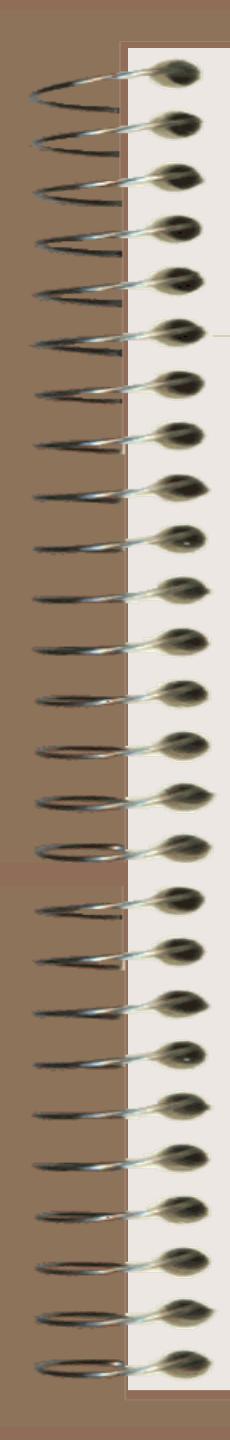


Common Terminology

Descriptive Term	Bleeding pattern
Menorrhagia	Regular cycles, prolonged duration, excessive flow
Metrorrhagia	Irregular cycles
Menometorrhagia	Irregular, prolonged, excessive
Hypermenorrhea	Regular, normal duration, excessive flow
Polymenorrhea	Frequent cycles

Other Causes of Vaginal Bleeding

- Pregnancy related causes
- Medications
- Anatomic causes
- Infectious disease
- Endocrine abnormalities: Thyroid, DM
- Bleeding disorders
- Endometrial hyperplasia
- Neoplasms



Contraceptive Bleeding

- OCP's
 - Lower dose contraceptives
 - Skipped pills
 - Altered absorption / metabolism
- Depo Provera
 - 50% irregular bleeding after first dose
 - 25% after a year
- Norplant
 - 30% have regular cycles
 - 66% have regular cycles by the 5th year of use

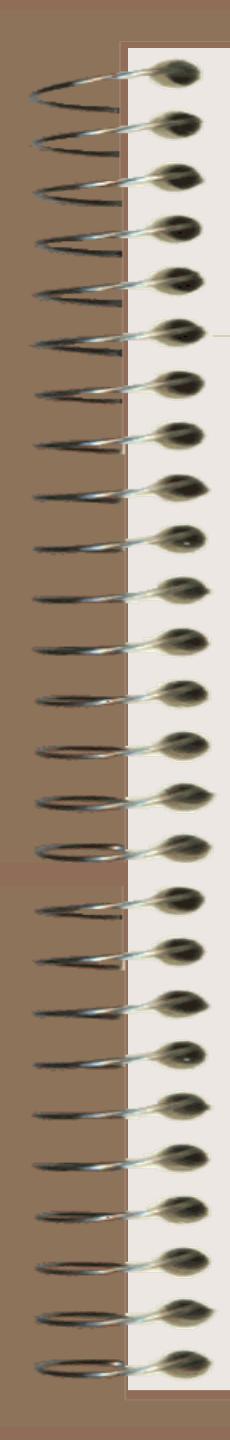
Hormone Replacement Therapy

- Sequential therapy
 - Bleeding near progesterone therapy
 - Bleed monthly
 - Can experience abnormal bleeding patterns
- Continuous therapy
 - 40% of women will bleed in first 4-6 months
 - Can try starting with sequential for 12 months to try and lower irregular bleeding rates



Medications

- Prescription: anticoagulants, SSRI's, antipsychotics, corticosteroids, tamoxifen
- OTC: soy supplements, gingko
 - Ginseng: known to have estrogenic properties
 - St. John's Wort can interact with oral contraceptives causing breakthrough bleeding



Fibroids

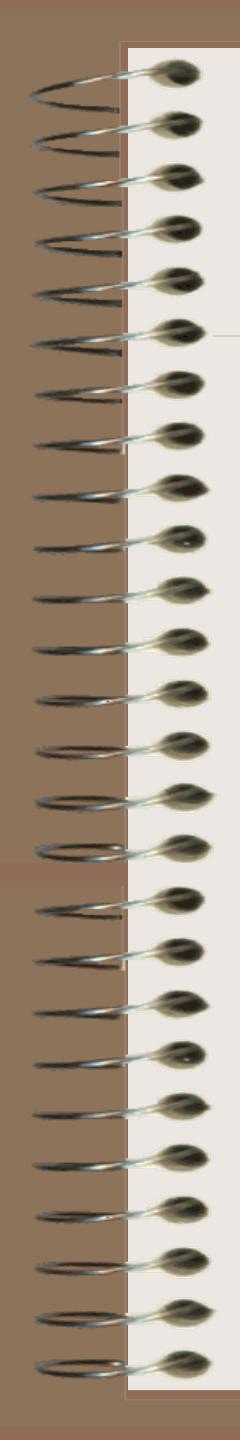
- Often asymptomatic
- Intramural and subserosal more likely to cause abnormal bleeding
- Usu cause heavier or prolonged periods

Adenomyosis

- Endometrial glands within the myometrium
- Usu asymptomatic
- Can present with heavy or prolonged bleeding
- Often accompanied by dysmenorrhea up to one week before menstruation
- Sx usu occur after age 40

Polyps

- Endometrial
 - Intermenstrual bleeding
 - Irregular bleeding
 - Menorrhagia
- Cervical
 - Intermenstrual spotting
 - Postcoital spotting

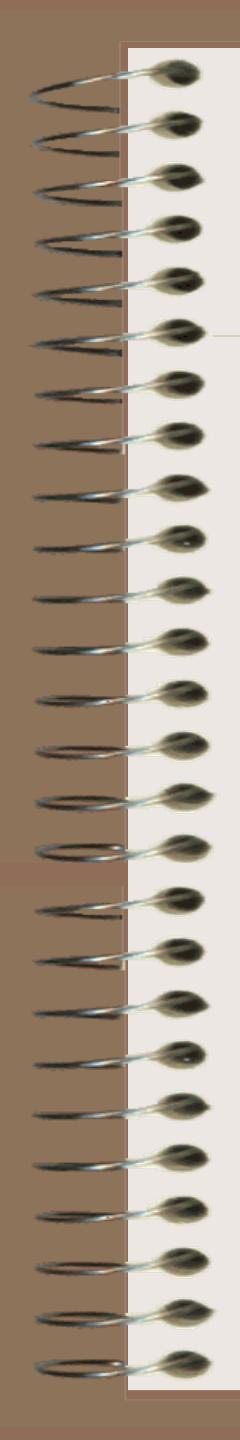


Infectious causes

- PID
 - Usu have fever, pelvic discomfort, CMT, adnexal tenderness but can present atypically
 - Can cause menorrhagia or metrorrhagia
 - More common during menstruation and with BV
- Trichomonas
- Endocervicitis

Endocrine abnormalities

- Hyperthyroidism
 - Amenorrhea
 - Oligomenorrhea
 - most common
 - Hypermenorrhea
 - Polymenorrhea,
- Hypothyroidism
 - Amenorrhea
 - Oligomenorrhea
 - Polymenorrhea
 - Menorrhagia
 - Occurs more frequently with severe hypothyroidism



Bleeding disorders

- Formation of a platelet plug is first step of homeostasis during menstruation
- Two most common disorders are von Willebrand's disease and thrombocytopenia
- May be particularly severe at menarche, due to the dominant estrogen stimulation causing increased vascularity

Endometrial hyperplasia

- Overgrowth of the glandular epithelium of the endometrial lining
- Usually occurs when a patient is exposed to unopposed estrogen, either estrogenically or because of anovulation
- Rates of neoplasm
 - simple hyperplasia: 1%.
 - complex hyperplasia with atypia: 30%

Uterine cancer

- Fourth most common cancer in women
- Risk factors
 - nulliparity, late menopause (after age 52), obesity, diabetes, unopposed estrogen therapy, tamoxifen, history of atypical endometrial hyperplasia
- Most often presents as postmenopausal bleeding in the sixth and seventh decade
 - only 10% of patients with postmenopausal bleeding when investigated will have endometrial cancer
- Perimenopausally can present as menometrorrhagia

Anovulatory Bleeding

- First year after menarche
- Perimenopause
- Polycystic Ovarian Syndrome
- Adult-onset Congenital Adrenal Hyperplasia
- Other: androgen producing tumors, hypothalamic dysfunction, hyperprolactinemia, pituitary disease



Taking the History

- Age
- Cyclic or anovulatory pattern
- Ob history
- Gyn and sexual history
- Medications
- Family history



Physical Exam

- Vital signs
- Weight
- Neck exam
- Skin exam
- Breast exam
- Pelvic exam

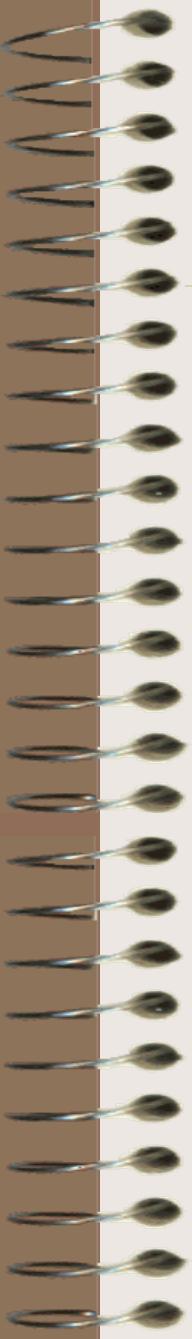
Laboratory studies

- CBC
- Urine or serum pregnancy test
- TSH
 - symptoms consistent with hypo/hyperthyroidism
 - women presenting with a change from a normal menstrual pattern
- PT, PTT, and bleeding time.
 - adolescents presenting with menorrhagia at menarche
- PCOS/Adult-onset CAH
 - LH, FSH, testosterone, androstenedione, basal 17-hydroxyprogesterone (17-HP)

Ultrasound



- Evaluate ovaries for PCOS
- Evaluate for fibroids
- Evaluate endometrial stripe



Sono hysterography

- transvaginal ultrasound following installation of saline into the uterus
- most useful for differentiating focal from diffuse endometrial abnormalities
- can help guide the decision of doing a hysteroscopy to evaluate a focal abnormality versus performing an endometrial biopsy or dilatation and curettage



Magnetic Resonance Imaging

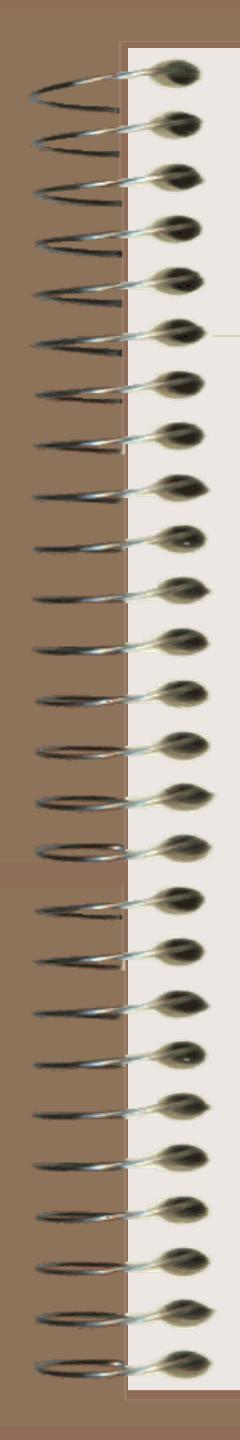
- better than ultrasound in distinguishing adenomyosis from fibroids
- sometimes used to evaluate fibroids prior to uterine artery embolization for the treatment of fibroids
- endometrium can be evaluated with a MRI



Endometrial sampling

Dilation and curettage

- generally will provide sampling of less than half of the uterine cavity
- not effective as the sole treatment for menorrhagia
- useful in patients with cervical stenosis or other anatomic factors preventing an adequate endometrial biopsy



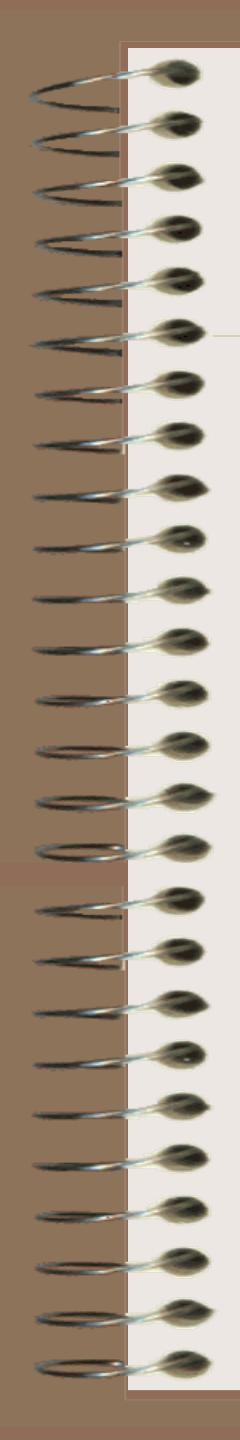
Endometrial sampling

Endometrial biopsy

- In the office use a clear, flexible endometrial curette with an inner plunger or piston that generates suction during the procedure
- rates of obtaining an adequate endometrial sample depends on the age of the patient
- If inadequate sample is obtained, must use additional diagnostic studies to fully evaluate the cause of the vaginal bleeding

Diagnostic Hysteroscopy

- direct exploration of the uterus is useful in identifying structural abnormalities like fibroids and endometrial polyps
- Larger diameter hysteroscopes allow specific biopsy of lesions
- In general, the diagnostic hysteroscopy is combined with a D&C or endometrial biopsy



Treatment Goals

- alleviation of any acute bleeding
- prevention of future noncyclic bleeding
- decrease in the patient's future risk of long-term health problems secondary to anovulation
- improvement in the patient's quality of life

Prostaglandin Synthetase Inhibitors

- mefanamic acid, ibuprofen, and naproxen
- Blood loss can be cut in half
- many of the studies completed in women with ovulatory cycles
- does not address the issues of future noncyclic bleeding and decreasing future health risks due to anovulation



Estrogen

- will temporarily stop most uterine bleeding, no matter what the cause
- dose commonly used is 25 mg IV of conjugated estrogen every four hours, or 2.5 mg p.o. QID
- Nausea limits using high doses of estrogen orally, but lower doses can be used in a patient who is hemodynamically stable

Progestins

- induce withdrawal bleeding
- decrease the risk of future hyperplasia and/or endometrial cancer
- continued for 7-12 days each cycle
- Medroxyprogesterone 10 mg x 10 days monthly common regimen
- norethindrone acetate (Aygestin), norethindrone (Micronor), norgestrel (Ovrette), and micronized progesterone (Prometrium, Crinone)



Oral Contraceptives

- option for treatment of both the acute episode of bleeding and future episodes of bleeding as well as prevention of long term health problems from anovulation
- triphasil norgestimate/ethinyl estradiol combination is what has been studied in a double-blind, placebo-controlled study
- various oral contraceptives have been used for decades
- Acute bleeding: 50mcg tab QID for one week after bleeding stops

Endometrial Ablation

- electrocautery, laser, cryoablation, or thermoablation
- all result in destruction of the endometrial lining
- outcomes are not well studied for women with anovulation
- most women will not experience long term amenorrhea after treatment
- risk of endometrial cancer is not eliminated

Summary

- Differential diagnosis depends on patients age
- Consider risks for endometrial cancer
 - nulliparity, late menopause (after age 52), obesity, diabetes, unopposed estrogen therapy, tamoxifen, and a history of atypical endometrial hyperplasia
- For DUB treatment plan includes addressing acute sx and preventive needs